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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/693,492      | 10/27/2003  | Kikuji Horiuchi      | 030115              | 3129             |

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EXAMINER

STOKES, CANDICE CAPRI

ART UNIT PAPER NUMBER

3732

DATE MAILED: 09/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/693,492             | HORIUCHI, KIKUJI    |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Candice C. Stokes      | 3732                |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1) Claims 1-4,6-7,9-12, and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borle (USPN 4,334,865) in view of Kram et al (USPN 6,926,484). In Fig. 1 Borle shows an artificial root of a tooth (1), comprising an artificial root body (11) of a tooth, provided with a male thread part to be engaged with a jaw bone (2), and with a supporting stage (13) on which an artificial tooth is mounted; and a self tapping part provided on said artificial root body (11) of the tooth. This also anticipates claim 14. As to Claims 2, the self tapping part comprises a first self tapping part provided at the end point of the screw of said artificial root body (11) of the tooth and a second self tapping part in a saw-blade shape, provided on a screw thread of said male thread part. Further to claims 1 and 3, Borle specifically states "the thread is preferably of saw-tooth shape" (col. 1, lines 52-53). As to Claims 6-7 and 9, as best shown in Fig. 1 of the Borle reference, the screw thread comprises a section on the side of the base end in which the second self tapping part in a saw-blade shape is not provided, specifically above the body (11) and under the bearing part (12). Regarding claims 10 and 15, the circumferential saw blade shape starts at least one thread away from the supporting stage (13). It actually starts after the intermediate portion (14) and after the bearing part (12), which is more than one thread away from the supporting stage (13). This also reads claim 16. Borle substantially discloses the claimed invention except for each tooth of the saw-blade shape is positioned in a spiral-line

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direction of an edge of the male thread part from an adjacent tooth in a saw-blade shape. Kram et al shows these features in Figures 1 and 2. Further, Kram et al teach “the present invention having the aforementioned saw-blade type serrated teeth 30 formed upon the continuous helical thread 22, wherein the saw-blade type or serrated teeth extend continuously and contiguously around the entire circumferential extent of the threaded fastener 10” (column 11, lines 27-34). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the saw-blade shape positioned in a circumferential spiral-line direction as taught by Kram et al into the dental screw as disclosed by Borle in order to allow the threads of the screw to be inserted or installed more easily.

2) Claims 5,8,13, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borle in view of Kram et al and in further view of Bjorn et al (USPN 6,896,517). Borle and Kram et al substantially disclose the claimed invention except for the first self-tapping part of the artificial root of the tooth comprising a triple blade. Bjorn et al teach a self-tapping implant wherein the first self-tapping portion, as shown in Fig. 2, comprises a triple blade 1,2,3. It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the triple blade at the first self tapping portion as taught by Bjorn et al into the invention disclosed by Borle in order to provide easier insertion into the jawbone and to provide spaces for the bone material that has been cut off so that the material will not block the further insertion of the screw.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.


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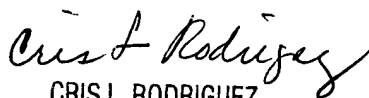
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Candice C. Stokes whose telephone number is (571) 272-4714. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached on (571) 272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Candice C. Stokes

  
CRIS L. RODRIGUEZ  
PRIMARY EXAMINER